

Index

Volume 30, 1977

A

- Abortive agents (TN), 318
- Aerial spraying, 214
- African Sahelo-Sudanian zone, 181
- Aldon, Earl F., 377
- Alford, E. J., 12
- Allison, Christopher D., 177
- American elm sprouts, 357
- Anderson, D. M., 316
- Aristida oligantha*, 337
- Artemisia* extracts, 134
- Asherin, Duane A., (thesis abstr.), 469
- Atrazine, 50
- Atriplex canescens*, 154
- Aubrey, F. T., 157

B

- Baker, D. L., 122
- Beasom, Samuel L., 138, 214, 404
- Beaty, E. R., 461
- Beef cattle, 442
- Bengson, Stuart A., 143
- Biochemical calcium cycling of *Andropogon scoparius* Michx. in two contrasting soil types, (thesis abstr.), 49
- Biosystematic study of the *Schizachyrium cirratum*-*Schizachyrium sanguineum* complex (Poaceae), A, (thesis abstr.), 29
- Bitterbrush, 91
- Bitterbrush germination with constant and alternating temperatures, 30
- Bitterbrush utilization, 237
- Black grass bugs, 128
- Black grass bug (*Labops hesperius* Uhler): Its effect on several native and introduced grasses, The, 380
- Blacktail prairie dogs, desert cottontails and cattle trophic relations on shortgrass range, 210
- Blue grama, 177, 276
- Bluestem, 258
- Boeker, Erwin L., 220
- Bonham, Charles D., 427
- Book reviews, 78, 159, 239, 320, 400, 468
- Botanical and nutritive composition of winter diets of cattle grazing prairie on the Texas Gulf Coast, The, (thesis abstr.), 198
- Botanical composition of cattle diets on a 7-pasture high-intensity, low-frequency grazing system, The (thesis abstr.), 465
- Bouteloua*, 427
- Bowen, R. L., 449
- Bowns, James E., 380, 420
- Brady, Ward W., 370, 374
- Briske, D. D., 276

- Britton, C. M., 367 (thesis abstr.), 395
- Broadscale, 296
- Brown, Gary R., 72
- Browse production, 357
- Browse utilization, 64
- Bruner, Allen D., 399
- Bryant, D. A., 349
- Bryant, F. C., 397
- Bull, R. C., 264
- Buwai, M., 21, 164
- Burnett, George L., 79
- Buck, Nicholas G., 442
- Burning, 337, 343
- Burning in pinyon-juniper, 399

C

- Cable, Dwight R., 4
- Cane bluestem: Forage yield, forage quality, and water-use efficiency, 190
- Canopy reflectance and film image relations among three south Texas rangeland plants, 449
- Canyonlands National Park, soil properties, 202
- Capper, Brian G., 442
- Carbohydrate and nitrogen reserve cycles for continuous, season-long and intensive-early stocked Flint Hills bluestem range, 258
- Carpenter, L. H., 122
- Cattle diets, 177
- Cattle diets on the Texas Coastal Prairie, 103
- Cattle, forage selection, 352
- Changing philosophies of rangeland management in the United States (viewpoint), 75
- Characterization of range sites in the Empire Valley, Arizona (thesis abstr.), 70
- Cheatgrass, 199
- Chromic oxide as an indicator of total fecal output in white-tailed deer, 61
- Clark, R. C., 116
- Cline, J. F., 199
- Coastal Bermudagrass, 227
- Coblentz, Bruce E., 415
- Coltharp, George B., 290, 457
- Comparative palatability of *Atriplex canescens*, 368
- Comparison of in vivo and in vitro dry matter digestibility of mule deer forages, 119
- Comparison of soil water used by a sagebrush-bunchgrass and a cheatgrass community, 199
- Comparison of twig-length and browsed-twig methods of determining browse utilization, A, 64
- Competition, 172

- Competition between Russian wildrye seedlings and four common weeds, 223
- Composition and degradation of jackrabbit and cottontail pellets, Texas high plains, 217
- Contour furrowing, 193
- Control of downy brome on Nebraska rangeland, 293
- Controlling prairie threeawn (*Aristida oligantha* Michx.) in central and eastern Kansas with fall burning, 337
- Correlation of net aerial primary production with selected environmental parameters in *Andropogon-Paspalum* grassland ecosystem (thesis abstr.), 367
- Correlation of precipitation and temperature with spring, regrowth, and mature crested wheatgrass yields, 270
- Crawford, John A., 217
- Crested wheatgrass, 236, 264, 270
- Cronin, E. H., 420, 434
- Crooked calf disease, 97
- Cundell, A. M., 299
- Currie, Pat O., (review), 352, 400

D

- Data slides, 466
- Davis, J. H., III, 318
- Deer, 61, 166
- Deer browsing and browse production of fertilized American elm sprouts, 357
- Deer habitat, 122
- Defoliation, 21
- Delphinium (barbeyi, glaucescens, occidentale)*, 237, 420
- Desert saltgrass rhizomes, 377
- Diet and feeding behavior of cattle at risk to dietary acute bovine pulmonary emphysema (DABPE) (thesis abstr.), 387
- Digestibility, 119
- Digestibility of tanoak, 349
- Dodson, James W., 461
- Donart, Gary B., 177
- Dormaer, J. F., 195
- Dotzenko, A. D., 281
- Downy brome, 293, 331
- Drawe, D. Lynn, 223
- Drip irrigation to revegetate mine wastes in an arid environment, 143
- Driver, B. L. (review), 239
- Drought, 177
- Dry season regrowth of six forage species following wildfire, 37
- Durable esophageal cannula for sheep and goats, A (TN), 397
- Durham, Albert Johnson, 103, 198
- Durham, George Preston (thesis abstr.), 319

TN = technical note.

E

- Early growth of Nordan crested wheatgrass and Sherman big bluegrass (TN), 236
 Eck, H. F., 190
 Economic evaluation of cattle and white-tailed deer response to aerial spraying of mixed brush, 214
 Economics of carry-over response to nitrogen fertilization of rangelands, 324
 Economics of tall larkspur control, 434
 Edaphic factors, 286
 Edgar, R. L., 296
 Edminster, Carleton B. (review), 159
 Effect of fire on lark sparrow nesting densities, 283
 Effect of light and moisture on Columbia milkvetch toxicity in lodgepole pine forests, The, 423
 Effect of mesquite trees on vegetation and soils in the desert grassland, 361
 Effect of selected presowing seed treatments on germination of Lehmann lovegrass seeds, 151
 Effect of winter burning on herbaceous cover on a converted chaparral watershed, 346
 Effects of aqueous *Artemisia* extracts and volatile substances on germination of selected species, 134
 Effects of fire, ash, and litter on soil nitrate, temperature, moisture and tobosagrass production in the rolling plains, 266
 Effects of gully plugs and contour furrows on erosion and sedimentation in Cisco Basin, Utah, 290
 Effects of range treatment with 2,4-D on prairie dog diet, 57
 Effects of rest following defoliations on the recovery of several range species, 21
 Effects of subsoil draining on heather moors in Scotland, 27
 Elk, 53
 Elliott, Jon Carner (thesis abstr.), 387
 Erosion, 290
 Estimating overwinter bitterbrush utilization from twig diameter-length-weight relations, 231
 Evaluation of deer habitat on a nutritional basis, 122
 Evans, Raymond A., 30, 33
 Everitt, J. H., 449

F

- Factors limiting liveweight gain of beef cattle on rangeland in Botswana, 442
 Fagerstone, Kathleen A., 57
 Falvey, J. Lindsay, 37
 Faust, Robert H., 457
 Felts, Barbara Lynn (thesis abstr.), 118
 Fenster, C. R., 293
 Feral burro forages, 370
 Feral burro impact on a Sonoran desert range, 374
 Ferguson, Robert B., 231
 Fertilization, 324, 328
 Fertilization influences cattle diets on blue grama range during drought, 177
Festuca Idahoensis meadows, 451

- Filho, J. A. de Araujo (thesis abstr.), 70
 Flinders, Jerran T., 217
 Flyash, 306
 Food habits of cattle on shortgrass range in northeastern Colorado, 261
 Food habits of mule deer in a semidesert grass-shrub habitat, 206
 Foods of wild horses, deer, and cattle in the Douglas Mountain area, Colorado, 116
 Food relations of wild free-roaming horses to livestock and big game, Red Desert, Wyoming, 17
 Forage availability and cattle diets on the Texas Coastal Prairie, 103
 Forage production in a five-year-old fertilized slash pine plantation, 131
 Forage quality of Colorado pastures, 281
 Forage selection comparisons for mule deer and cattle under managed Ponderosa pine, 352
 Forage yields of five perennial grasses with and without white clover at four nitrogen rates, 461
 Forest pest control—Volume IV of Pest control: An assessment of present and alternative technologies (reviewed), 78
 Forest resources management (reviewed), 159
 The Forest Service: A study in public land management (reviewed), 79
 Fourwing saltbush (*Atriplex canescens*) propagation techniques, 154
 Francis, Richard E. (review), 159
 Fuxa, J. R., 385

G

- Gambel oak, 53
 Gausman, H. W., 449
 Gerbermann, A. H., 449
 Germination, 30, 33, 134, 151
 Germination characteristics of broadscale: A possible saline-alkaline site stabilizer, 296
 Gifford, Gerald F., 290, 457
 Gilbert, R. O., 311
 Gill, R. B., 122
 Gold, Ilyse K., 210
 Golden eagle country (reviewed), 79
 Gonzalez, C. L., 227
 Grama (*Bouteloua* ssp.) communities in a southeastern Arizona grassland, 427
 Grass production changes with mesquite (*Prosopis juliflora*) reinvasion in southern Arizona (thesis abstr.), 400
 Gray, Alan M., 128
 Grazing, 91
 Grelen, Harold E., 94
 Growth of selected plants on Wyoming surface-mined soils and flyash, 306
 Growth of selected species under Trans-Pecos conditions (thesis abstr.), 230
 Growth, production, and browse utilization characteristics of serviceberry (*Amelanchier alnifolia* Nutt.) in the Badlands of southwestern North Dakota (thesis abstr.), 189
 Guthery, Fred S., 404

H

- Haferkamp, Marshall R., 151
 Hafner, Murle P., 315
 Hanley, Thomas A., 370, 374
 Hansen, Richard M., 17, 116, 210, 261
 Harper, K. T., 202, 286
 Harris, Grant A., 75 (viewpoint), 172
 Hatch, Stephen Lavor (thesis abstr.), 29
 Haws, B. Austin, 128, 380
 Hazlett, D. L., 134
 Heilman, M. D., 227
 Helm, D. J., 318
 Herbicides, 138
 Herbicides and the range ecosystem: Residues, research, and the role of rangeland, 86
 Herbicides, nitrogen and control of tall larkspur under aspen trees, 420
 Higgins, Kurt M., 380
 Hoffman, G. R., 134
 Hoste, C. H., 181
 Houston, W. R., 50
 Howard, Gene S., 306

I

- Improving Gambel oak ranges for elk and mule deer by spraying with 2,4,5-TP, 53
 Indian ricegrass (TN), 315
 Influence of grazing on age-yield interactions in bitterbrush, 91
 Intermediate wheatgrass, 128

J

- James, Lynn F., 97
 Jensen, Charles H., 64
 Johnsen, T. N., Jr., 410
 Johnson, A. Earl, 420
 Johnson, Gordon V., 377
 Johnson, Wallace J., 154
 Johnston, A., 195
 Jordan, Gilbert L., 151

K

- Kallah, Sani (thesis abstr.), 456
 Kamm, J. A., 385
 Karr, B. L., 395
 Keeler, Richard F., 97
 Kempf, Gary Stephen (thesis abstr.), 230
 Kirby, D. R., 349
 Kleiner, Degar F., 202, 286
 Klemmedson, James O., 361
 Knipe, O. D., 346
 Koshi, P. T., 190
 Kothmann, M. M., 103, 316
 Kufeld, Roland C., 53

L

- Labops hesperius* Uhler, 380, 385
 Lark sparrow, 283
 Larkspur species, 237, 420
 Larson, Gary E., 244
 Launchbaugh, John L., 337
 La Voie, G. Keith, 57
 Lavin, Fred, 410
 Lawhorn, W., 116
 Le Houérou, H. N., 181

Leave your soil tins at home (TN), 318
 Lehmann lovegrass, 151
 Lesperance, A. L., 388
 Light, Darrell E., 442
 Liquid supplements for cattle on southern forest range, 94
 Livestock-deer relations in the lodgepole pine-pumice region of central Oregon, 110
 Locating random points in the field (TN), 157
 Lodgepole pine, 110
 Looney, N. E., 423
 Lupine-induced crooked calf disease and a management method to reduce incidence, 97

M

Majak, W., 318, 423
 Malechek, J. C., 128, 352
 Management practices to manipulate populations of the plant bug *Labops hesperius* Uhler, 385
 Manual of remote sensing (reviewed), 159
 Marsden, Michael A., 231
 Mayland, H. F., 12, 264, 388
 McCarty, M. K., 293
 McConnell, Burt R., 91
 McCormick, Paul W., 324
 McCully, W. G., 190
 McDonald, W. Richard, 315
 McLean, A., 318
 Measuring soil compaction on rangeland, 457
 Mediterranean Basin, 181
 Menke, J. W., 21
 Merriam's turkey, 220
 Mesquite, 4
 Mesquite trees, 361
 Miller, Mark D., 442
 Mine wastes, 143
 Mineral composition of rumen fistula samples compared to diet, 388
 Mixtures of bottom ash and soil as a growth medium for three range species, 391
 Moghaddam, M. R., 71
 Monitoring animal travel with digital pedometers (TN), 316
 Moore, Kenneth Ray (thesis abstr.), 469
 Morrow, L. A., 293
 Mortality associated with sheep operations in Idaho, 253
 Moss, Robert, 27
 Mule deer, 53, 352
 Mule deer, food habits, 206
 Mule deer forages, 119
 Multiple defoliation effects on herbage yield, vigor, and total nonstructural carbohydrates of five range species, 164
 Multiseasonal-multispectral remote sensing of phenological changes for natural vegetation inventory (thesis abstr.), 384
 Mustang: Life and legend of Nevada's wild horses (reviewed), 400
 Mules, George A. (review), 239

N

Nass, Roger D., 253
 Neff, Earl L., 193

Nemati, Nasser, 148, 339, 368
 Nicholson, Robert A., 427
 Nielsen, Darwin B., 434
 Nishimura, John Y. (review), 320
 Nitrogen fertilization, 328
 Nitrogen fertilization of rangeland, 324
 Nitrogen reserve cycle, 258
 Nutrient content of feral burro forages, 370

O

Occurrence of four major perennial grasses in relation to edaphic factors in a pristine community, 286
 Olsen, Frank W., 17
 Olsen, John D., 237
 Optimum size and shape of quadrat for sampling herbage weight in grasslands of northern Greece, 446
 Outdoor recreation planning (reviewed), 239
 Overwinter soil water recharge and herbage production as influenced by contour furrowing on eastern Montana rangelands, 193
 Owensby, Clenton E., 258, 337

P

Palmblad, I. G., 223
 Papanastasis, Vasilios P., 446
 Parkins, P. D., 423
 Pase, C. P., 346
 Pavlicek, Kenneth A., 377
 Pearson, Henry A., 94
 Perenniality and development of shoots of 12 forage species in Montana, 107
 Pest control: An assessment of present and alternative technologies. Volume 1. Contemporary pest control practices and prospects: The report of the executive committee (reviewed), 78
 Phenology, nutrient composition, digestibility, and utilization of heath aster (*Aster erioloides* L.) (thesis abstr.), 456
 Phillips, John, 27
 Phytotoxic effects of bunchgrass residues on germination and initial root growth of yellow sweetclover, 39
 Pieper, Rex D., 177, 470
 Pine needle water extracts as potential abortive agents in gestating cow diets (TN), 318
 Pinyon-juniper, 44
 Pinyon-juniper control, 220
 Plains pricklypear is a good forage for cattle, 12
 Plant succession following chaining of pinyon-juniper woodlands in eastern Nevada, 44
 Population reactions of selected game species to aerial herbicide applications in south Texas, 138
 Possible effects of weather modification (increased snowpack) on *Festuca Idahoensis* meadows, 451
 Prairie dog diet, 57
 Pratchett, David, 442
 Prescribed burning, 399

Prescribed burning effects on nutrition, production and big game use of key northern Idaho browse species (thesis abstr.), 469
 Production, 68
 Propagation techniques, 154
 Proper burning intervals for tobosagrass in west Texas based on nitrogen dynamics, 343
 Public grazing lands (reviewed), 239

Q

Quadrat size and shape, 446

R

Ragsdale, B. J., 85
 Rains, Jerry R., 258
 Range improvement, 148
 Range management theses 1968-1975, 470
 Range rehabilitation problems of the steppe zone of Iran, 339
 Rangeland production and annual rainfall relations in the Mediterranean Basin and in the African Sahelo-Sudanian zone, 181
 Rauzi, Frank, 306
 Reece, P. E., 318
 Regelin, W. L., 122
 Reichert, D. W., 352
 Remote detection of deer habitat factors (thesis abstr.), 469
 Rennie, Thomas W., 442
 Renwald, J. David, 283
Reseda lutea: A multipurpose plant for arid and semiarid lands (TN), 71
 Responses of game and nongame wildlife to predator control in south Texas, 404
 Responses of Merriam's turkey to pinyon-juniper control, 220
 Responses of vegetation and sheep to three grazing pressures (thesis abstr.), 314
 Rest, effect on recovery following defoliation, 21
 Revegetation, 299
 Rhodesgrass, 227
 Rice, R. W., 261
 Richards, Delwin L., Jr., 315
 Rickard, W. H., 199, 311
 Ries, R. E., 466
 Rietveld, W. J., 39
 Rittenhouse, L. R., 68, 236
 Role of microorganisms in the revegetation of strip-mined land in the western United States, The, 299
 Root development, 276
 Root phenology as a factor of competition among grass seedlings, 172
 Ruggiero, Leonard F., 61
 Russian wildrye, 223
 Rutherford, Alistair S., 442

S

Sagebrush, big, 68, 311, 331
 Sagebrush-bunchgrass community, 199
 Sampling big sagebrush for phytomass, 311
 Schmid, John M. (review), 78
 Schrupf, Barry James (thesis abstr.), 384

Schuman, Gerald E., 306
 Scifres, C. J., 86, 138, 214
 Scott, Virgil E., 220
 Scotter, George W., 64
 Seasonal fluctuations in nutrient content of feral burro forages, Lower Colorado River Valley, Arizona, 370
 Seasonal use of soil water by mature velvet mesquite, 4
 Seasonal variation in chemical characteristics of soil organic matter of grazed and ungrazed mixed prairie and fescue grasslands, 195
 Seed germination of true prairie forbs, 439
 Selecting letter sizes for technical data slides (TN), 466
 Sharrow, Steven H., 266, 343
 Sheep losses on selected ranches in southern Wyoming, 244
 Sheep mortality, 253
 Sherman big bluegrass, 236
 Shewmaker, G. E., 264
 Shoop, M. C., 12
 Shoot perennality and development, 107
 Short, Henry L., 206
 Short duration grazing in north Florida flatwoods (*thesis abstr.*), 118
 Shortgrass range, 261
 Shrub transplanting for range improvement in Iran, 148
 Shupe, James L., 97
 Simple tool for collecting Indian ricegrass seed (TN), 315
 Sims, P. L., 261
 Slash pine plantation, 131
 Smith, A. D., 119
 Smith E. Lamar (*review*), 320
 Smith, Ed F., 258
 Smith, Justin G., 91
 Smoliak, S., 195
 Smudge pot lighter—an effective tool for prescribed burning in pinyon-juniper, 399
 Sneva, F. A., 68, 236, 270, 395
 Soil compaction on rangelands, 457
 Soil ingestion by cattle grazing crested wheatgrass, 264
 Soil nitrogen levels in a semiarid climate following long-term nitrogen fertilization, 328
 Soil organic matter, 195
 Soil properties in relation to cryptogamic groundcover in Canyonlands National Park, 202
 Soil taxonomy (*reviewed*), 320
 Soil water recharge, 193
 Soil water use by mesquite, 4

Soil water use comparison, 199
 Some range relationships of feral goats on Santa Catalina Island, California, 415
 Southern forest range, 94
 Species adapted for planting Arizona pinyon-juniper woodland, 410
 Species susceptibility to atrazine herbicide on shortgrass range, 50
 Spofford, Walter R. (*review*), 79
 Springfield, H. W., 296
 Squirreltail seed germination, 33
 Stevens, Robert E. (*review*), 78
 Stubbendieck, J., 190
 Stuth, Jerry W., 110

T

Tall larkspur control, 434
 Tanoak digestibility, 349
 Tausch, Robin J., 44
 Taylor, C. A., 397, 465 (*thesis abstr.*)
 Technique for estimating big sagebrush production, A, 68
 Technique for measuring rate of fire spread, A (TN), 395
 Temperature effects on adventitious root development in blue grama seedlings, 276
 Theses, 1968–1975, 470
 Thetford, Frank Oren (*thesis abstr.*), 314
 Thilenius, John F., 72
 Thomas, Dee B., 290
 Thompson, L. G., 281
 Tiedemann, Arthur R., 361
 Tietjen, Howard P., 57
 Tigner, James R., 244
 Tobosagrass, 266, 343
 Tool and method for extracting plant-root-soil cores on remote sites, A, (TN), 72
 Toxicity of extract from three larkspur species (*Delphinium barbeyi*, *D. glaucescens*, *D. occidentale*) measured by rat bioassay (TN), 237
 TNC, 164
 Trail, John C., 442
 Trlica, M. J., 21, 164, 391
 Trophic relations on shortgrass range, 210
 Tropical pasture research—principles and methods (*reviewed*), 320
 Tueller, Paul T., 44

U

Uresk, D. W., 199, 311
 Urness, P. J., 119
 Utilization, 64, 231

V

Van Kampen, Kent R., 97
 Van Ryswyk, A. L., 423
 Vavra, M., 261
 Vegetation response and management of south Texas rangeland following chemical and mechanical brush control (*thesis abstr.*), 319
 Vegetative propagation of desert saltgrass rhizomes, 377
 Voigt, John W., 439

W

Waldern, D. E., 318
 Walkowiak, B. J., 466
 Wallace, Joe D., 177
 Waller, Steven Scobee (*thesis abstr.*), 49
 Wallmo, O. C., 122, 352
 Watkins, R. K., 119
 Weed control—revegetation systems for big sagebrush-downy brome rangeland, 331
 Wester, David B., 391
 Whelan, James B., 61
 White, Larry D., 131
 White, Larry M., 107
 White-tailed deer, 61, 214
 Whitson, Robert E., 214
 Wiesner, Loren E., 154
 Wight, J. Ross, 193
 Wild horses, 17
 Wild horses, foods, 116
 Wildfire, 37
 Williams, Dean Elder (*thesis abstr.*), 189
 Williams, R. J., 423
 Wilson, A. M., 276
 Winter burning, 346
 Winward, A. H., 110
 Workman, John P., 324
 Wright, Henry A., 266, 343

Y

Yield and chemical composition of coastal Bermudagrass, Rhodesgrass, and volunteer species grown on saline and non-saline soils, 227
 Yield and nutritional quality of intermediate wheatgrass infested by black grass bugs at low population densities, 128
 Young, James A., 30, 33

Table of Contents

Volume 30, 1977

Number 1, January

Seasonal Use of Soil Water by Mature Velvet Mesquite — <i>Dwight R. Cable</i>	4	Species Susceptibility to Atrazine Herbicide on Shortgrass Range — <i>W. R. Houston</i>	50
Plains Pricklypear Is a Good Forage for Cattle — <i>M. C. Shoop, E. J. Aiford, and H. F. Mayland</i>	12	Improving Gambel Oak Range for Elk and Mule Deer by Spraying with 2,4,5-TP — <i>Roland C. Kufeld</i>	53
Food Relations of Wild Free-Roaming Horses to Livestock and Big Game, Red Desert, Wyoming — <i>Frank W. Olsen and Richard M. Hansen</i>	17	Effects of Range Treatment with 2,4-D on Prairie Dog Diet — <i>Kathleen A. Fagerstone, Howard T. Tietjen, and G. Keith LaVoie</i>	57
Effects of Rest Following Defoliations on the Recovery of Several Range Species — <i>M. J. Trlica, M. Buwai, and J. W. Menke</i>	21	Chromic Oxide as an Indicator of Total Fecal Output in White-tailed Deer — <i>Leonard F. Ruggiero and James B. Whelan</i>	61
Effects of Subsoil Draining on Heather Moors in Scotland — <i>John Phillips and Robert Moss</i>	27	A Comparison of Twig-length and Browsed-twig Methods of Determining Browse Utilization — <i>Charles H. Jensen and George W. Scotter</i>	64
Bitterbrush Germination with Constant and Alternating Temperatures — <i>Raymond A. Evans and James A. Young</i>	30	A Technique for Estimating Big Sagebrush Production — <i>L. R. Rittenhouse and F. A. Sneva</i>	68
Squirreltail Seed Germination — <i>James A. Young and Raymond A. Evans</i>	33	<i>Reseda lutea</i> : A Multipurpose Plant for Arid and Semiarid Lands — <i>M. R. Moghaddam</i>	71
Dry Season Regrowth of Six Forage Species Following Wildfire — <i>J. Lindsay Falvey</i>	37	A Tool and Method for Extracting Plant-Root-Soil Cores on Remote Sites — <i>Gary R. Brown and John F. Thilenius</i>	72
Phytotoxic Effects of Bunchgrass Residues on Germination and Initial Root Growth of Yellow Sweetclover — <i>W. J. Rietveld</i> ..	39	Changing Philosophies of Rangeland Management in the United States — <i>Grant A. Harris</i>	75
Plant Succession Following Chaining of Pinyon-Juniper Woodlands in Eastern Nevada — <i>Robin J. Tausch and Paul T. Tueller</i>	44	Book Reviews	78

Number 2, March

President's Address: Still Growing and Developing in '76 — <i>B. J. Ragsdale</i>	84	Yield and Nutritional Quality of Intermediate Wheatgrass Infested by Black Grass Bugs at Low Population Densities — <i>John C. Malechek, Alan M. Gray, and B. Austin Haws</i>	128
Herbicides and the Range Ecosystem: Residues, Research, and the Role of Rangeland — <i>C. J. Scifres</i>	86	Forage Production in a Five-Year-Old Fertilized Slash Pine Plantation — <i>Larry D. White</i>	131
Influence of Grazing on Age-Yield Interactions in Bitterbrush — <i>Burt R. McConnell and Justin G. Smith</i>	91	Effects of Aqueous <i>Artemisia</i> Extracts and Volatile Substances on Germination of Selected Species — <i>G. R. Hoffman and D. L. Hazlett</i>	134
Liquid Supplements for Cattle on Southern Forest Range — <i>Harold E. Grelen and Henry A. Pearson</i>	94	Population Reactions of Selected Game Species to Aerial Herbicide Applications in South Texas — <i>Samuel L. Beasom and Charles J. Scifres</i>	138
Lupine-induced Crooked Calf Disease and a Management Method to Reduce Incidence — <i>Richard F. Keeler, Lynn F. James, James L. Shupe, and Kent R. Van Kampen</i>	97	Drip Irrigation to Revegetate Mine Wastes in an Arid Environment — <i>Stuart A. Bengson</i>	143
Forage Availability and Cattle Diets on the Texas Coastal Prairie — <i>Albert J. Durham, Jr. and M. M. Kothmann</i>	103	Shrub Transplanting for Range Improvement in Iran — <i>Nasser Nemati</i>	148
Perenniality and Development of Shoots of 12 Forage Species in Montana — <i>Larry M. White</i>	107	The Effect of Selected Presowing Seed Treatments on Germination of <i>Lehmann Lovegrass</i> Seeds — <i>Marshall R. Haferkamp and Gilbert L. Jordan</i>	151
Livestock-Deer Relations in the Lodgepole Pine-Pumice Region of Central Oregon — <i>Jerry W. Stuth and A. H. Winward</i>	110	Fourwing Saltbush (<i>Atriplex canescens</i>) Propagation Techniques — <i>Loren E. Wiesner and Wallace J. Johnson</i>	154
Foods of Wild Horses, Deer, and Cattle in the Douglas Mountain Area, Colorado — <i>R. M. Hansen, R. C. Clark, and W. Lawhorn</i>	116	Locating Random Points in the Field — <i>F. T. Awbrey</i>	157
Comparison of In Vivo and In Vitro Dry Matter Digestibility of Mule Deer Forages — <i>P. J. Urness, A. D. Smith, and R. K. Watkins</i>	119	Book Reviews	159
Evaluation of Deer Habitat on a Nutritional Basis — <i>O. C. Wallmo, L. H. Carpenter, W. L. Regelin, R. B. Gill, and D. L. Baker</i>	122		

Number 3, May

Multiple Defoliation Effects on Herbage Yield, Vigor, and Total Nonstructural Carbohydrates of Five Range Species — <i>M. Buwai and M. J. Trlica</i>	164	Blacktail Prairie Dogs, Desert Cottontails and Cattle Trophic Relations on Shortgrass Range — <i>Richard M. Hansen and Ilyse K. Gold</i>	210
Root Phenology as a Factor of Competition Among Grass Seedlings — <i>Grant A. Harris</i>	172	Economic Evaluation of Cattle and White-tailed Deer Response to Aerial Spraying of Mixed Brush — <i>Robert E. Whitson, Samuel L. Beasom, and C. J. Scifres</i>	214
Fertilization Influences Cattle Diets on Blue Grama Range During Drought — <i>Christopher D. Allison, Rex D. Pieper, Gary B. Donart, and Joe D. Wallace</i>	177	Composition and Degradation of Jackrabbit and Cottontail Fecal Pellets, Texas High Plains — <i>Jerran T. Flinders and John A. Crawford</i>	217
Rangeland Production and Annual Rainfall Relations in the Mediterranean Basin and in the African Sahelo-Sudanian Zone — <i>H. N. Le Houérou and C. H. Hoste</i>	181	Responses of Merriam's Turkey to Pinyon-Juniper Control — <i>Virgil E. Scott and Erwin L. Boeker</i>	220
Cane Bluestems: Forage Yield, Forage Quality, and Water-Use Efficiency — <i>P. T. Koshi, H. V. Eck, J. Stubbendieck, and W. G. McCully</i>	190	Competition Between Russian Wildrye Seedlings and Four Common Weeds — <i>D. Lynn Drawe and I. G. Palmblad</i>	223
Overwinter Soil Water Recharge and Herbage Production as Influenced by Contour Furrowing on Eastern Montana Rangelands — <i>Earl L. Neff and J. Ross Wight</i>	193	Yield and Chemical Composition of Coastal Bermudagrass, Rhodesgrass, and Volunteer Species Grown on Saline and Nonsaline Soils — <i>C. J. Gonzalez and M. D. Heilman</i>	227
Seasonal Variation in Chemical Characteristics of Soil Organic Matter of Grazed and Ungrazed Mixed Prairie and Fescue Grassland — <i>J. F. Dormaar, A. Johnston, and S. Smoliak</i>	195	Estimating Overwinter Bitterbrush Utilization from Twig Diameter-Length-Weight Relations — <i>Robert B. Ferguson and Michael A. Marsden</i>	231
Comparison of Soil Water Used by a Sagebrush-Bunchgrass and a Cheatgrass Community — <i>J. F. Cline, D. W. Uresk, and W. H. Rickard</i>	199	Early Growth of Nordan Crested Wheatgrass and Sherman Big Bluegrass — <i>L. R. Rittenhouse and F. A. Sneva</i>	236
Soil Properties in Relation to Cryptogamic Groundcover in Canyonlands National Park — <i>Edgar F. Kleiner and K. T. Harper</i>	202	Toxicity of Extract from Three Larkspur Species (<i>Delphinium barbeyi</i> , <i>D. glaucescens</i> , <i>D. occidentale</i>) Measured by Rat Bioassay — <i>John D. Olsen</i>	237
Food Habits of Mule Deer in a Semidesert Grass-Shrub Habitat — <i>Henry L. Short</i>	206	Book Reviews	239

Number 4, July

Sheep Losses on Selected Ranches in Southern Wyoming — <i>James R. Tigner and Gary E. Larson</i>	244	Effects of Gully Plugs and Contour Furrows on Erosion and Sedimentation in Cisco Basin, Utah — <i>Gerald F. Gifford, Dee B. Thomas, and George B. Coltharp</i>	290
Mortality Associated with Sheep Operations in Idaho — <i>Roger D. Nass</i>	253	Control of Downy Brome on Nebraska Rangeland — <i>L. A. Morrow, C. R. Fenster, and M. K. McCarty</i>	293
Carbohydrate and Nitrogen Reserve Cycles for Continuous, Season-long and Intensive-early Stocked Flint Hills Bluestem Range — <i>Clenton E. Owensby, Ed F. Smith, and Jerry R. Rains</i>	258	Germination Characteristics of Broadscale: A Possible Saline-Alkaline Site Stabilizer — <i>R. L. Edgar and H. W. Springfield</i>	296
Food Habits of Cattle on Shortgrass Range in Northeastern Colorado — <i>M. Vavra, R. W. Rice, R. M. Hansen, and P. L. Sims</i>	261	The Role of Microorganisms in the Revegetation of Strip-Mined Land in the Western United States — <i>A. M. Cundell</i>	299
Soil Ingestion by Cattle Grazing Crested Wheatgrass — <i>H. F. Mayland, G. E. Shewmaker, and R. C. Bull</i>	264	Growth of Selected Plants on Wyoming Surface-Mined Soils and Flyash — <i>Gene S. Howard, Gerald E. Schuman, and Frank Rauzi</i>	306
Effects of Fire, Ash, and Litter on Soil Nitrate, Temperature, Moisture and Tobosagrass Production in the Rolling Plains — <i>Steven H. Sharrow and Henry A. Wright</i>	266	Sampling Big Sagebrush for Phytomass — <i>D. W. Uresk, R. O. Gilbert, and W. H. Rickard</i>	311
Correlations of Precipitation and Temperature with Spring, Regrowth, and Mature Crested Wheatgrass Yields — <i>Forrest A. Sneva</i>	270	Simple Tool for Collecting Indian Ricegrass Seed — <i>W. Richard McDonald, Murle P. Hafner, and Delwin L. Richards, Jr.</i>	315
Temperature Effects on Adventitious Root Development in Blue Grama Seedlings — <i>D. D. Briske and A. M. Wilson</i>	276	Monitoring Animal Travel with Digital Pedometers — <i>D. M. Anderson and M. M. Kothmann</i>	316
Forage Quality of Colorado Pastures — <i>L. G. Thompson and A. D. Dotzenko</i>	281	Leave Your Soil Tins at Home — <i>P. E. Reece, D. J. Helm, and J. H. Davis III</i>	318
Effect of Fire on Lark Sparrow Nesting Densities — <i>J. David Renwald</i>	283	Pine Needle Water Extracts as Potential Abortive Agents in Gestating Cow Diets — <i>W. Majak, D. E. Waldern, and A. McLean</i>	318
Occurrence of Four Major Perennial Grasses in Relation to Edaphic Factors in a Pristine Community — <i>Edgar F. Kleiner and K. T. Harper</i>	286	Book Reviews	320

Number 5, September

Economics of Carry-over Response to Nitrogen Fertilization of Rangelands — John P. Workman and Paul W. McCormick . . .	324	Comparative Palatability of <i>Atriplex canescens</i> — Nasser Nemati	368
Soil Nitrogen Levels in a Semiarid Climate Following Long-term Nitrogen Fertilization — Forrest A. Sneva	328	Seasonal Fluctuations in Nutrient Content of Feral Burro Forages, Lower Colorado River Valley, Arizona — Thomas A. Hanley and Ward W. Brady	370
Weed Control-Revegetation Systems for Big Sagebrush-Downy Brome Rangelands — Raymond A. Evans and James A. Young	331	Feral Burro Impact on a Sonoran Desert Range — Thomas A. Hanley and Ward W. Brady	374
Controlling Prairie Threeweed (<i>Aristida oligantha</i> Michx.) in Central and Eastern Kansas with Fall Burning — Clenton E. Owensby and John L. Launchbaugh	337	Vegetative Propagation of Desert Saltgrass Rhizomes — Kenneth A. Pavlicek, Gordon V. Johnson, and Earl F. Aldon	377
Range Rehabilitation Problems of the Steppic Zone of Iran — Nasser Nemati	339	The Black Grass Bug (<i>Labops hesperius</i> Uhler): Its Effect on Several Native and Introduced Grasses — Kurt M. Higgins, James E. Bowns, and B. Austin Haws	380
Proper Burning Intervals for Tobosagrass in West Texas Based on Nitrogen Dynamics — Steven H. Sharrow and Henry A. Wright	343	Management Practices to Manipulate Populations of the Plant Bug <i>Labops hesperius</i> Uhler — J. A. Kamm and J. R. Fuxa . . .	385
Effect of Winter Burning on Herbaceous Cover on a Converted Chaparral Watershed — C. P. Pase and O. D. Knipe	346	Mineral Composition of Rumen Fistula Samples Compared to Diet — H. F. Mayland and A. L. Lesperance	388
Digestibility of Tanoak — D. R. Kirby and D. A. Bryant	349	Mixtures of Bottom Ash and Soil as a Growth Medium for Three Range Species — David B. Wester and M. J. Trlica	391
Forage Selection Comparisons for Mule Deer and Cattle under Managed Ponderosa Pine — P. O. Currie, D. W. Reichert, J. C. Malechek, and O. C. Wallmo	352	A Technique for Measuring Rate of Fire Spread — C. M. Britton, B. L. Karr, and F. A. Sneva	395
Deer Browsing and Browse Production of Fertilized American Elm Sprouts — James F. George and Jeff Powell	357	A Durable Esophageal Cannula for Sheep and Goats — C. A. Taylor and F. C. Bryant	397
Effect of Mesquite Trees on Vegetation and Soils in the Desert Grassland — Arthur R. Tiedemann and James O. Klemmedson	361	Smudge Pot Lighter — an Effective Tool for Prescribed Burning in Pinyon-Juniper — Allen D. Bruner	399
		Book Reviews	400

Number 6, November

Response of Game and Nongame Wildlife to Predator Control in South Texas — Fred S. Guthery and Samuel L. Beasom	404	Optimum Size and Shape of Quadrat for Sampling Herbage Weight in Grasslands of Northern Greece — Vasilios P. Papanastasis	446
Species Adapted for Planting Arizona Pinyon-Juniper Woodland — Fred Lavin and T. N. Johnsen, Jr.	410	Canopy Reflectance and Film Image Relations among Three South Texas Rangeland Plants — H. W. Gausman, J. H. Everitt, A. H. Gerbermann, and R. L. Bowen	449
Some Range Relationships of Feral Goats on Santa Catalina Island, California — Bruce E. Coblenz	415	Possible Effects of Weather Modification (Increased Snowpack) on <i>Festuca Idahoensis</i> Meadows — T. Weaver and D. Collins	451
Herbicides, Nitrogen, and Control of Tall Larkspur under Aspen Trees — E. H. Cronin, James E. Bowns, and A. Earl Johnson	420	Measuring Soil Compaction on Rangeland — Gerald F. Gifford, Robert H. Faust, and George B. Coltharp	457
The Effect of Light and Moisture on Columbia Milkvetch Toxicity in Lodgepole Pine Forests — W. Majak, P. D. Parkinson, R. J. Williams, N.E. Looney, and A. L. Van Ryswyk	423	Forage Yields of Five Perennial Grasses with and without White Clover at Four Nitrogen Rates — James W. Dodson and E. R. Beaty	461
Grama (<i>Bouteloua</i> Lag.) Communities in a Southeastern Arizona Grassland — Robert A. Nicholson and Charles D. Bonham . .	427	Selecting Letter Sizes for Technical Data Slides — B. J. Walkowiak and R. E. Ries	466
Economics of Tall Larkspur Control — Darwin B. Nielsen and E. H. Cronin	434	Book Reviews	468
Seed Germination of True Prairie Forbs — John W. Voigt	439	Range Management Theses 1968–1975 — Rex D. Pieper	470
Factors Limiting Liveweight Gain of Beef Cattle on Rangeland in Botswana — David Pratchett, Brian G. Capper, Darrell E. Light, Mark D. Miller, Alistair S. Rutherford, Thomas W. Rennie, Nicholas G. Buck, and John C. Trail	442	Index	473

